

CLAIMS

What is claimed is:

1. A rotary cutting tool comprising a body having a circumferential face bearing a plurality of pockets for receiving cutting inserts and a rotational axis disposed within said circumferential face, wherein said pockets are arranged in rows and columns on said circumferential face, and wherein said pockets display at least
5 two of three types of orientational irregularities relative to said circumferential face, wherein said three types of orientational irregularities include
angular spacing of a first said pocket of a selected row and of a first said column which said angular spacing is unequal with respect to proximity to a second said pocket of said selected row and of a second said column, and to a third said
10 pocket of said selected row and of a third said column;
differing axial rake angles of at least one said pocket from those of at least one other said pocket; and
differing radial rake angles of at least one said pocket from those of at least one other said pocket.
2. The rotary cutting tool according to claim 1, wherein said pockets are arranged in rows and columns on said circumferential face; and wherein
at least one said pocket of a first said column is angularly unequally spaced with respect to proximity to a second said pocket of said selected row and of a second
5 said column, and to a third said pocket of said selected row and of a third said column; and
at least one said pocket is arranged to hold an installed cutting insert at a first rake angle, and at least one other said pocket is arranged to hold another installed cutting insert at a different rake angle.
3. The rotary cutting tool according to claim 2, wherein said first rake angle and said different rake angle comprise both axial rake angles.
4. The rotary cutting tool according to claim 2, wherein said first rake angle and said different rake angle both comprise radial rake angles.

5. The rotary cutting tool according to claim 4, wherein lead pockets of different columns display radial rake angles of greater magnitudes than the rake angles of at least some other said pockets.

6. The rotary cutting tool according to claim 4, wherein lead pockets of different columns and pockets immediately adjacent to said lead pockets have similar radial rake angles; and

5 lead pockets of different columns and pockets immediately adjacent to said lead pockets each display radial rake angles of greater magnitudes than the rake angles of other pockets.

7. The rotary cutting tool according to claim 1, wherein said body has helical flutes disposed thereon, and each said pocket is associated with one of said flutes.

8. The rotary cutting tool according to claim 1, wherein said rotary cutting tool is an end mill wherein each said pocket is disposed to hold an installed insert such that the installed insert displays a clearance angle within the range of zero to twenty degrees.

9. The rotary cutting tool according to claim 1, wherein at least one said pocket is arranged to hold an installed cutting insert at a first axial rake angle, and at least one other said pocket is arranged to hold another installed cutting insert at a different axial rake angle; and

5 at least one pocket is arranged to hold an installed cutting insert at a first radial rake angle, and at least one other said pocket is arranged to hold another installed cutting insert at a different radial rake angle.

10. The rotary cutting tool according to claim 1, wherein said pockets collectively display all three of said three types of orientational irregularities.